

Post-Construction Review Recommendations

The Post-Construction Review is conducted when a project's construction is 90% complete, "lessons learned" have occurred and they are still "hot" in the minds of all.

The Project Engineer/Supervisor will notify the Area Engineer when a project will be 90% complete.

The Area Engineer will coordinate with the Project Manager and invite the appropriate people to the Review. It is suggested that a Review agenda be provided with the invitation.

Depending on the Level of Review, INDOT should consider participation by members of these organizations in their post-construction reviews.

INDOT STAFF

Road Design
Bridge Design
Geotechnical
Hydraulics
Construction
Environmental
Traffic
Maintenance Personnel
Utility Coordinator

EXTERNAL STAFF

Designer
Contractor Supervisor
Contractor Estimator
Key Subcontractors
Utility Companies
IDEM/DNR
Railroads
Local Municipality

The Project Manager will record minutes of the review to be distributed to all appropriate parties.

This review provides the opportunity for those partners, INDOT Project Engineer/Supervisor, Contractor's Construction Manager and others, who have constructed the project, to critique the efforts of those who developed the project and vice versa. How well did the construction deliver the project? Frank, candid discussions will produce better understanding for project delivery.



Indiana Department of Transportation
Project Constructability Review
Post-Construction Review

Project Engineer/Supervisor or Contractor Construction Manager

Primary DES No. _____ Contract No. _____

Route _____ District _____

Work Type _____ RFC Date _____

Project Location _____

Project Description _____

County/City/Town _____ Designer _____

Project Manager _____

Construction Manager _____ Date _____

Contractor Construction Manager _____ Contractor _____

Evaluation of Project Constructability Quality

Evaluation Criteria		Y	N	N/A	Note	Flag
CONSTRUCTABILITY						
A. Plans & Special Provisions						
*	1. Were conflicts between plans and standard drawings?					
*	2. Were control points included and match the work to existing conditions?					
*	3. Could existing drainage patterns be maintained during construction?					
*	4. Were cross sections accurate?					
*	5. Were bridge screed elevations and dead load camber identified?					
*	6. Was the rebar congestion reduced in the pier caps?					
*	7. Was there sufficient working area around structures?					
*	8. Was access available to structure site?					
*	9. Did special provisions reflect work to be performed?					
*	10. Did special provisions include measurement and basis of payment?					
*	11. Were any special provisions omitted?					
*	12. Were coordination and agreements with appropriate agencies/parties included?					

Project Constructability Review (Stage 3)

* - Item related to consultant designer evaluation

Y - Yes, N - No, NA - Not Applicable, Note - See note number, Flag - Item requires priority attention

Evaluation Criteria		Y	N	N/A	Note	Flag
*	13. Was cross referencing between various contract documents consistent?					
*	14. Were unique special provisions due to proposed phasing?					
*	15. Were bidders restricted in their bids?					
*	16. Was a degree of flexibility included in the bidding documents?					
*	17. Did special provisions reflect work to be performed?					
*	18. Did special provisions include measurement and basis of payment?					
*	19. Were any special provisions omitted?					
*	20. Were coordination and agreements with appropriate agencies/parties included?					
*	21. Were there any apparent conflicts between plans, specifications or special provisions?					
*	22. Was cross referencing between various contract documents consistent?					
*	23. Were there unique special provisions due to proposed phasing?					
*	24. Were all required permits detailed in special provisions?					
*	25. Were all permit conditions that are applicable to construction activity clearly detailed?					
B. Quantities						
*	1. Were billed materials tables accurate?					
*	2. Were quantities reliable, verifiable and certified?					
C. Pay Items						
*	1. Were pay items appropriate?					
*	2. Were pay items accurate?					
*	3. Were pay items consistent with specifications?					
*	4. Did pay items reflect scope of work?					
*	5. Missing pay items?					
*	6. Were all temporary items for maintenance of traffic included?					
*	7. Were pay item descriptions sufficient?					
D. Utilities						
*	1. Were current utility locations on plans?					
*	2. Were utility relocations reasonable?					
*	3. Was there construction conflicts with underground/overhead utilities?					
*	4. Was Right-of-Way conducive to utility relocations?					
*	5. Did project phasing address utility relocation?					
*	6. Did utilities conflict with drainage?					
*	7. Were there overhead utility conflicts?					
*	8. Were the relocations dependent on another utility?					

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*	9. Could the utilities be relocated concurrently?					
*	10. Subsurface exploration?					
*	11. Utilities investigation (verification of plans, schedule, and relocations)?					
E. Environmental						
*	1. Were environmental restrictions period impacts have been identified?					
*	2. Were erosion and pollution control items/measures shown?					
*	3. Were all permit requirements met?					
*	4. Was dust and noise control measures identified?					
*	5. Were provisions in plans and/or bid documents for silt fences, turbidity barriers, included?					
*	6. Were required environmental permits identified & applications drafted?					
*	7. Were there noise abatement provisions? (e.g. alternative construction schedule)					
F. Site Investigation						
*	1. Has sufficient field investigation been done to ascertain that contract work can be performed as shown on the plans?					
*	2. Current site survey (horizontal & vertical controls)?					
*	3. Subsurface exploration?					
*	4. Utilities investigation (verification of plans, schedule, and relocations)?					
*	5. Emergency/interim structural repairs been considered?					
G. Right of Way						
*	1. Sufficient R/W available for all operations?					
*	2. Sufficient R/W for equipment and material storage?					
*	3. Staging needs met?					
*	4. Access requirements?					
*	5. Access to work areas?					
*	6. Was temporary R/W for construction access identified?					
*	7. Was there enough Right of Way to construct the slopes as shown?					
*	8. Was there enough work room for the contractor to construct the slopes?					
*	9. Was the Right of Way conducive to utility relocates?					
*	10. Was it straight to allow for power pole runs without a bunch of down guys?					
*	11. Did the structures fit in the R/W?					
*	12. Was there enough work room to build the structures on the R/W?					

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H. Construction Phasing						
*	1. Phased to provide minimum number of stages and reasonable work areas and access?					
*	2. Were there areas with restricted access?					
*	3. Were work zone widths adequate for construction equipment needs?					
*	4. Were travel lanes adequate?					
*	5. Project phasing considered drainage construction?					
*	6. Did staging cause special conditions (i.e. structural adequacy/stability)?					
*	7. Proposed adjacent contracts, restrictions, constraints identified and accounted for?					
*	8. Could these details, as shown on the plans, be constructed using standard industry practice, operations, and equipment?					
*	9. Would traffic signal preformed loops work with phasing?					
I. Traffic Maintenance & Traffic Management Plans						
*	1. Were appropriate MOT plan and phases developed?					
*	2. Were MOT requirements realistic for site conditions?					
*	3. Were construction operations able to be carried out safely under MOT and staging?					
*	4. The MOT plan addressed adequate work area for construction operations?					
*	5. Was a TMP developed and coordinated with appropriate authorities?					
*	6. The TMP adequately addressed site conditions and traffic volumes?					
*	7. Were lane closures reasonable for traffic volumes?					
*	8. Signing and traffic control adequate?					
*	9. Were required lanes and closure periods clearly identified?					
*	10. Were work zones sufficient in size for construction operations?					
*	11. Could emergency vehicle travel through closure areas?					
*	12. Were "drop offs" due to construction phasing addressed to safely maintain traffic lanes.					
*	13. Were pedestrian, bicycle, ADA needs considered?					
*	14. Adequate provisions for access for pedestrians and abutting properties?					
*	15. Were location of traffic control signs, warning devices, and barricades encroaching on lanes?					
*	16. Were exits and entrances to work zones adequate and safe?					
*	17. Were lanes on which traffic is to be maintained compatible with local conditions?					

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*	18. Was special access required to adjacent property?					
*	19. Was safe pedestrian access and access to business/residences provided throughout the project duration?					
*	20. Were there grade changes between phases that won't allow for access to properties?					
*	21. Was consideration given to depth of total pavement section (including subgrade treatment and profile changes) for safety and access?					
J. Schedule & Special Considerations						
	1. Letting schedule is appropriate for desired completion date					
	2. Schedule addressed other work in area or related contracts in project					
	3. Schedule addressed environmental restriction periods					
	4. Schedule addressed local events, holidays, etc.					
	5. Schedule addressed special material procurement time					
	6. Schedule addressed removal of hazardous materials as necessary					
	7. Schedule addressed utility relocation timeline					
	8. Schedule addressed railroad coordination as necessary					
	9. Was length of time and production rates for work reasonable?					
	10. Was sequence of construction reasonable?					
	11. Seasonal limits on construction operations?					
	12. Was utility relocation schedule reasonable?					
	13. Regulatory permit restrictions?					
	14. Was time allowed for processing of shop drawings and related approval?					
	15. Was time allowed for materials ordering, fabrication, and delivery requirement?					
	16. Did restricted hours impact production?					
	17. All necessary construction operations identified?					
	18. Impact of additional work? Costs?					
	19. Time related specs – completion/milestone realistic? Costs?					
	20. Was night and weekend work proposed and impacts considered? Costs?					
K. Special Materials/Conditions						
*	1. Pertinent provisions and restrictions clearly indicated?					
*	2. Any special (unique/proprietary) materials, methods or technologies required for contract?					
*	3. Special coordination required, RR, Permits, Regulatory?					
*	4. Presence of asbestos, hazardous waste or toxic materials?					
*	5. Safety requirements, fall protection, electric lines, and other utilities, RR requirements?					

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Evaluation Criteria		Y	N	N/A	Note	Flag
*	6. Winter concreting?					
*	7. Soils stabilization?					
*	8. Were adverse effects of weather considered in selecting materials or construction methods?					
*	9. Was use of proprietary items approved?					
*	10. Were there any special construction methods or conditions that need to be described or considered?					
*	11. Was the cost implications of special construction methods or conditions considered in the project?					
*	12. Were there outside impacts that are pushing the overall job costs up that might be mitigated in some manner?					

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Page 8 of 8

Indiana Department of Transportation

Design Consultant Rating Guidelines
for
Project Development Contract Performance

Post Construction Plan Review Submission

The following criteria are to be used after Project Constructability Review 1 to evaluate the designer's performance.

1. Budget: Did the consultant adopt Planning's budget into the design process sufficiently to maintain cost effectiveness?	
Rating	Criteria
+2	Exceeds: Exceptional level of performance. The designer improved the Planning budget by more than 10%.
+1	Above Average: Above expected level of performance. The designer improved budget more than 5%.
0	Satisfactory: Expected level of performance. The designer maintained the approved budget within 5%.
-1	Improvement Required: Below expected level of performance. The designer had budget slippage of 5%-10%.
-3	Unsatisfactory: Well below expected level of performance. The designer exceeded the budget by more than 10%.

2. Scope: Did the consultant define Planning's scope to integrate the design process sufficiently to improve cost effectiveness?	
Rating	Criteria
+2	Exceeds: Exceptional level of performance. The designer excelled in developing the project scope to reduce costs, schedule and environmental impact while maintaining the required purpose and need of the project.
+1	Above Average: Above level of performance. The designer used innovative methods developing the project to reduce either costs, schedule and environmental impact to improve safety.
0	Satisfactory: Expected level of performance. The designer develops the projects to the specified objectives.
-1	Improvement Required: Below expected level of performance. The designer allowed some scope creep.
-3	Unsatisfactory: Well below expected level of performance. The designer had excessive scope creep.

3. Schedule: Did the Consultant meet intermediate submittal dates?

Rating	Criteria
+2	Exceeds: Exceptional level of performance. The designer provided an accurate submittal within the schedule in all cases and exceeded the schedule by 15 calendar days.
+1	Above Average: Above expected level of performance. The consultant provided an acceptable submittal within the schedule in all cases and exceeded the schedule by 7 calendar days.
0	Satisfactory: Expected level of performance. The consultant provided acceptable submittals within the schedule or was late by 7 calendar days or less.
-1	Improvement Required: Below expected level of performance. The consultant was more than 7 calendar days late in providing any acceptable submittal, or more than 50% of intermediate submittals were late.
-3	Unsatisfactory: Well below expected level of performance. The consultant did not comply with any of the above.

4. Schedule: Did the Consultant meet final contract time requirements?

Rating	Criteria
+2	Exceeds: Exceptional level of performance. A superior final work product certified "Ready for Contract" more than 60 calendar days ahead of schedule.
+1	Above Average: Above expected level of performance. An acceptable final work product was certified "Ready for Contract" more than 30 calendar days ahead of schedule.
0	Satisfactory: Expected level of performance. An acceptable final work product was delivered within the scheduled time.
-1	Improvement Required: Below expected level of performance. An acceptable final work product was delivered up to two months behind schedule.
-3	Unsatisfactory: Well below expected level of performance. An acceptable final work product was delivered more than two months behind schedule.

5. Responsiveness: How well did the consultant respond to the reviewer?

Rating	Criteria
+2	Exceeds: Exceptional level of performance. Exceeded expectations in answering questions and making requested changes. The designer project coordination was proactive in addressing project issues.
+1	Above Average: Above expected level of performance. Willingness to answer questions and make requested changes. The designer project coordination was proactive in addressing project issues.
0	Satisfactory: Expected level of performance. The designer did revise the plans/documents in accordance with the comments and/or explained why revisions were not made. The designer handled project coordination. The designer showed a willingness to answer questions.
-1	Improvement Required: Below level of performance. The designer did not revise some of the plans/documents in accordance with the comments and did not explain why some of the revisions were not made. The designer showed some cooperation at handling project coordination. The designer showed some cooperation in answering questions but required several requests.
-3	Unsatisfactory: Well below expected level of performance. The designer did not comply with any of the above.